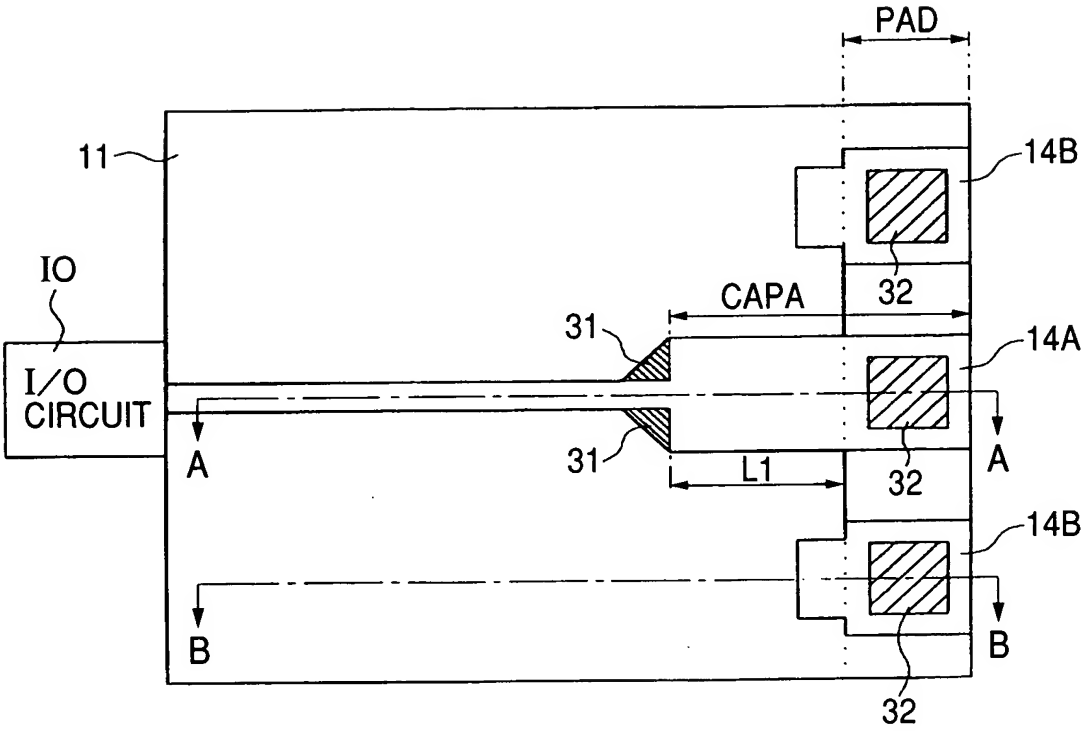
FIG. 1



11 : FIRST-LAYER WIRING (FIRST WIRING)
14A : FOURTH-LAYER WIRING (FOURTH WIRING)

FIG. 2

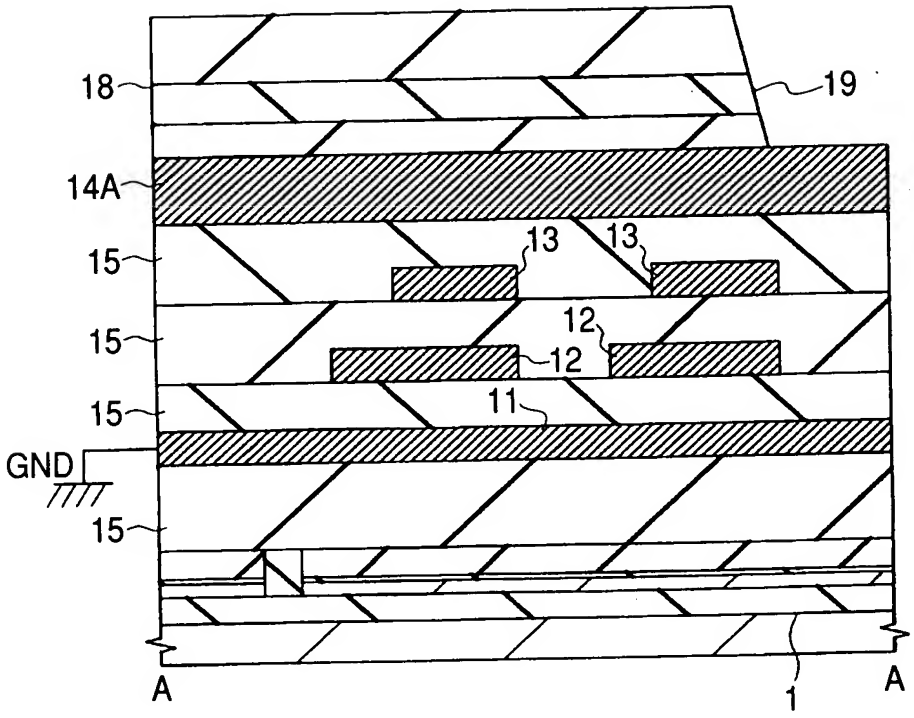


FIG. 3

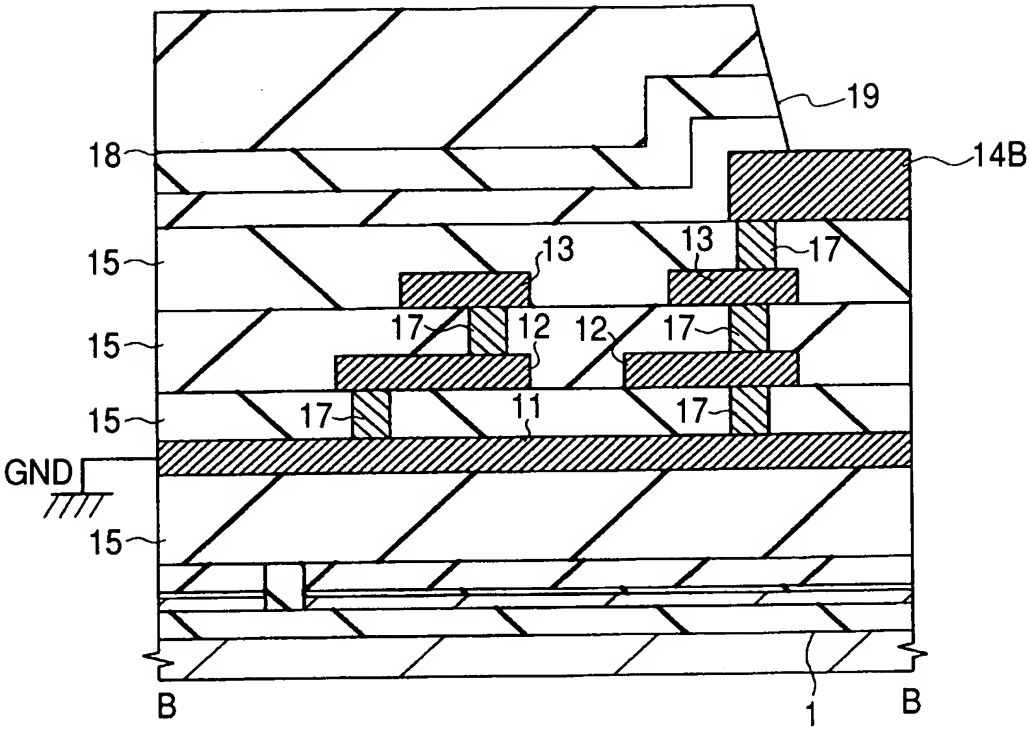

19
18
14B
15
13
13
17
17
12
12
17
15
17
11
17
15
GND
15
B
1
B

FIG. 4

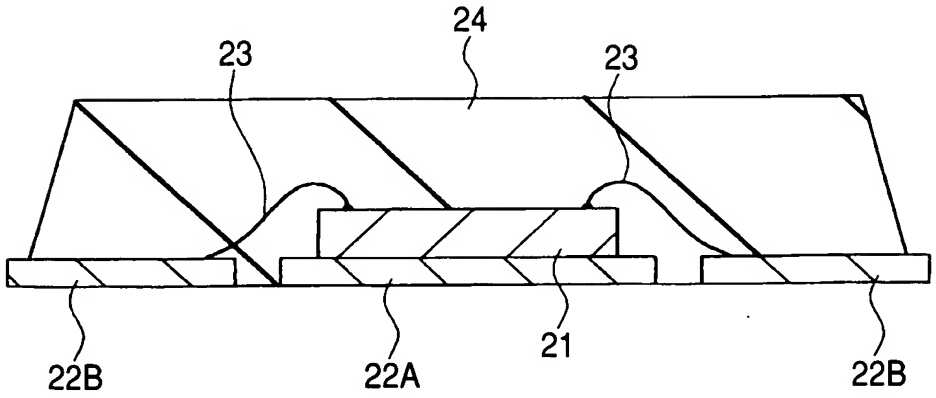
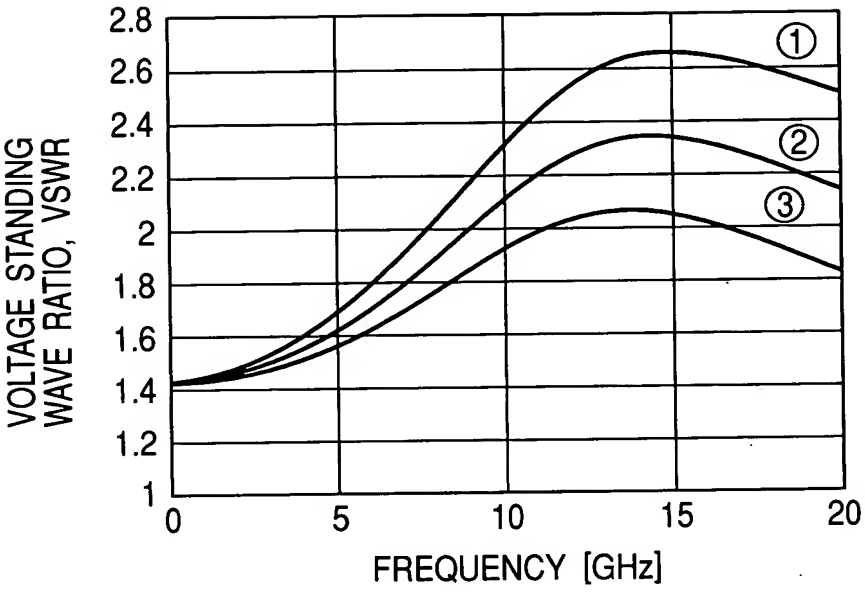

24
23
23
22B
22A
21
22B

FIG. 5



WIRE INDUCTANCE : 1nH

No.	L	VSWR (≦12GHz)	TRANSMISSION LOSS (≦12GHz)	DECISION	REASON
①	0 μm	2.7	-0.1dB	×	LARGE VSWR
②	50 μm	2.4	-0.3dB	○	MOST SUITABLE
③	100 μm	2.1	-0.5dB	×	LARGE LOSS

FIG. 6

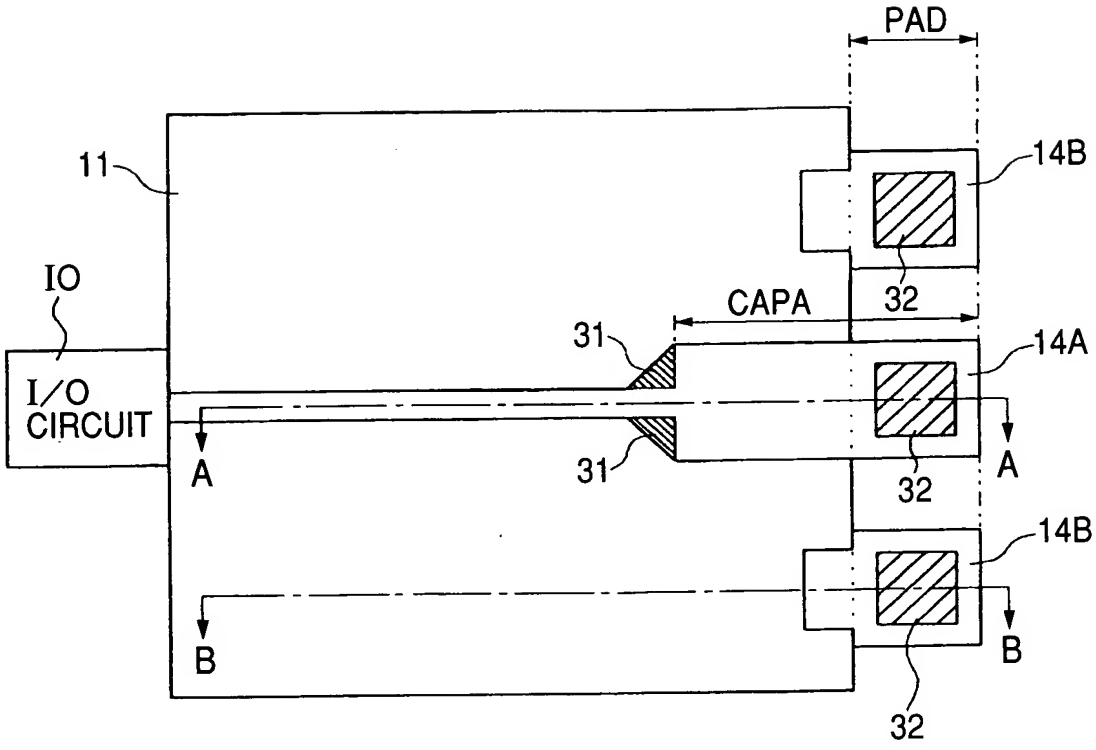


FIG. 7

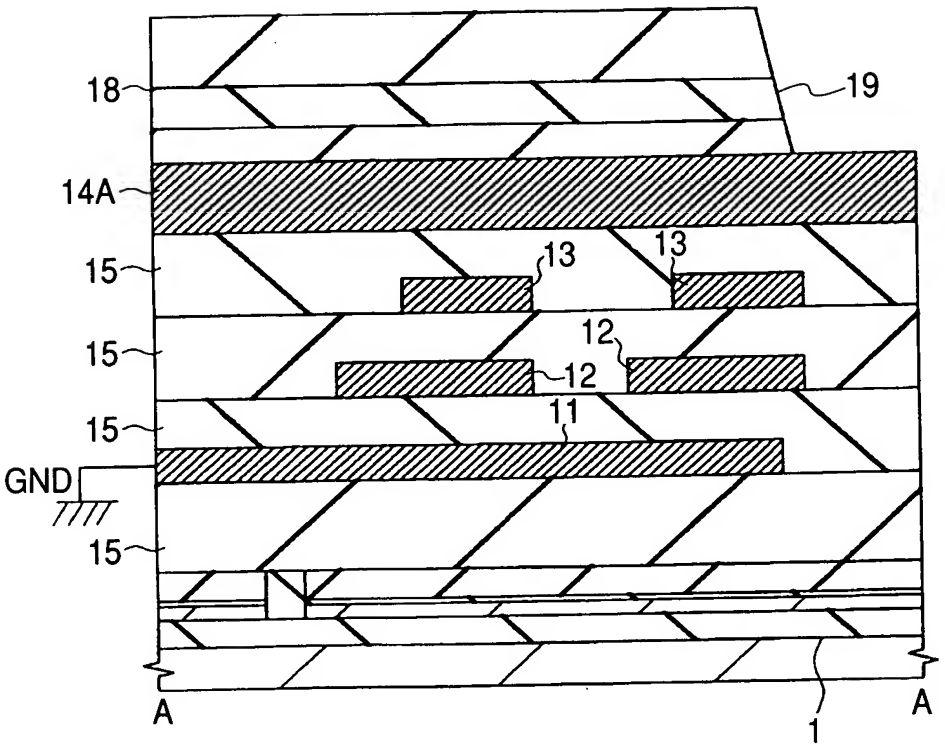


FIG. 8

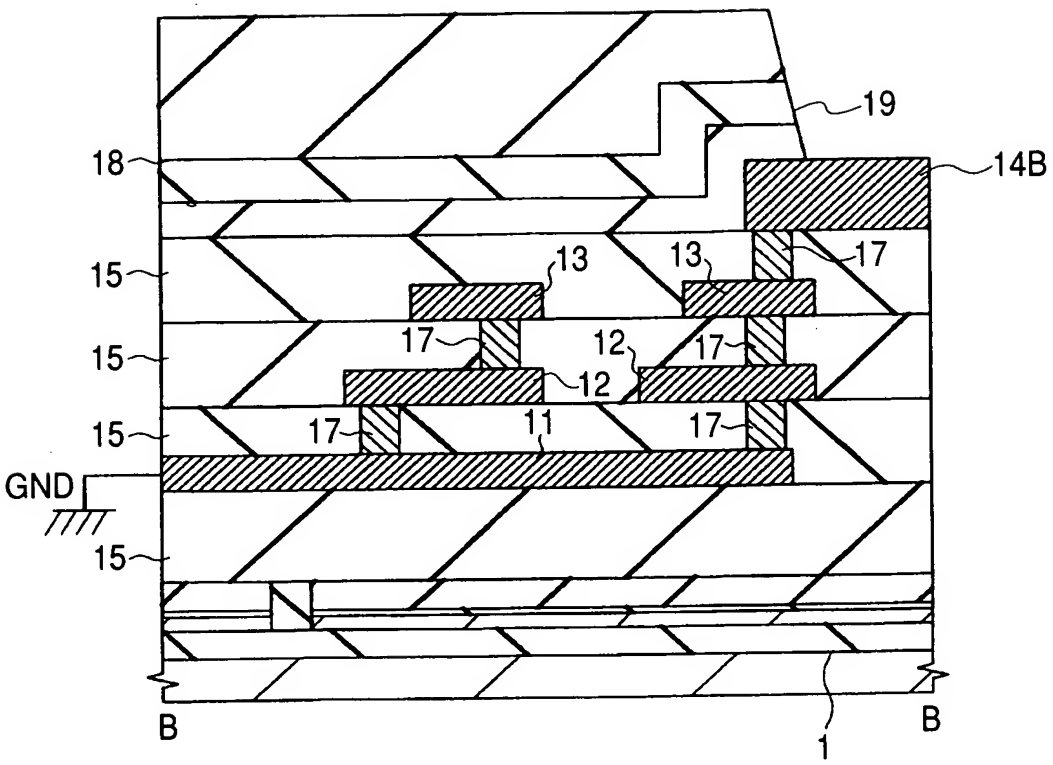


FIG. 9

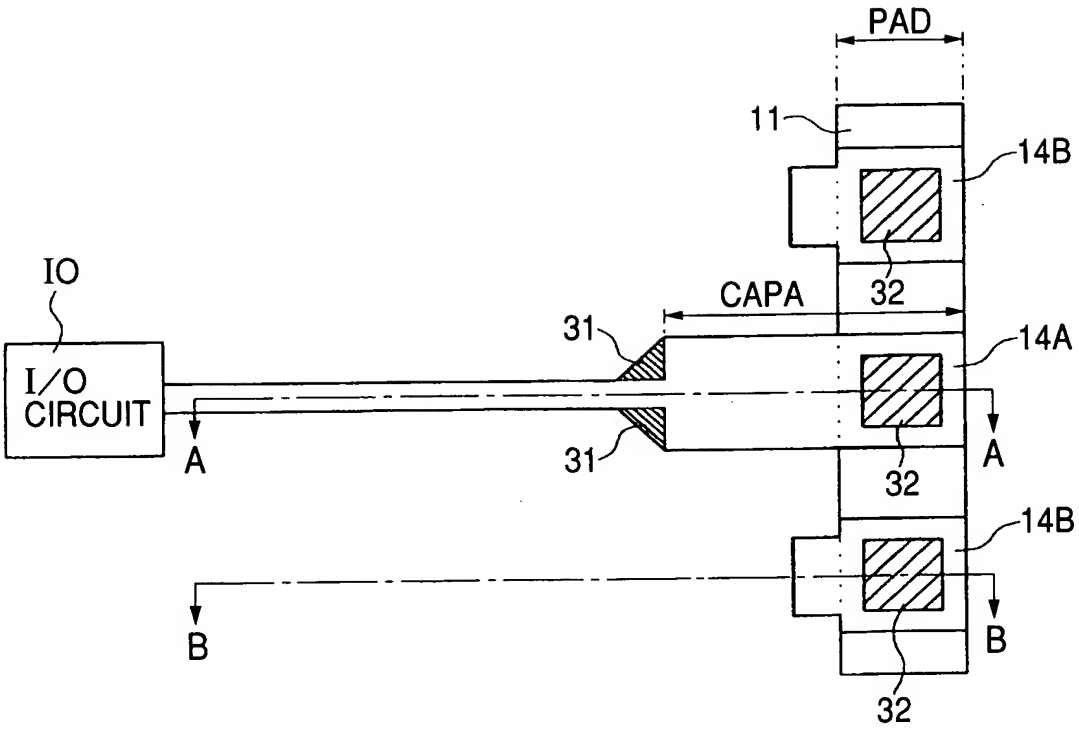


FIG. 10

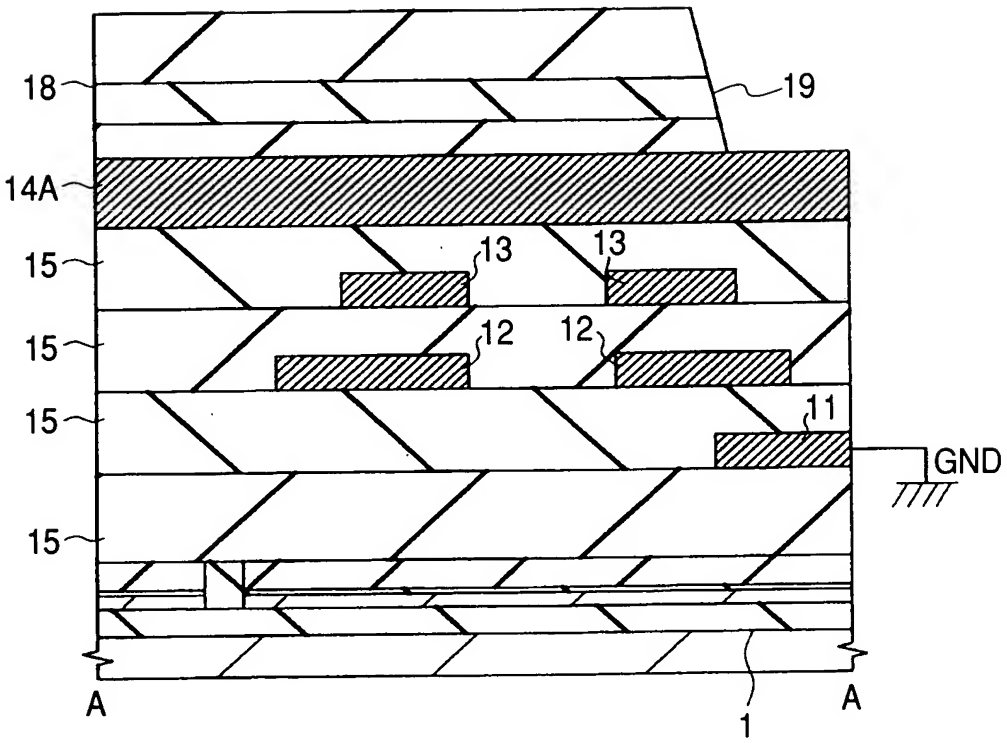


FIG. 11

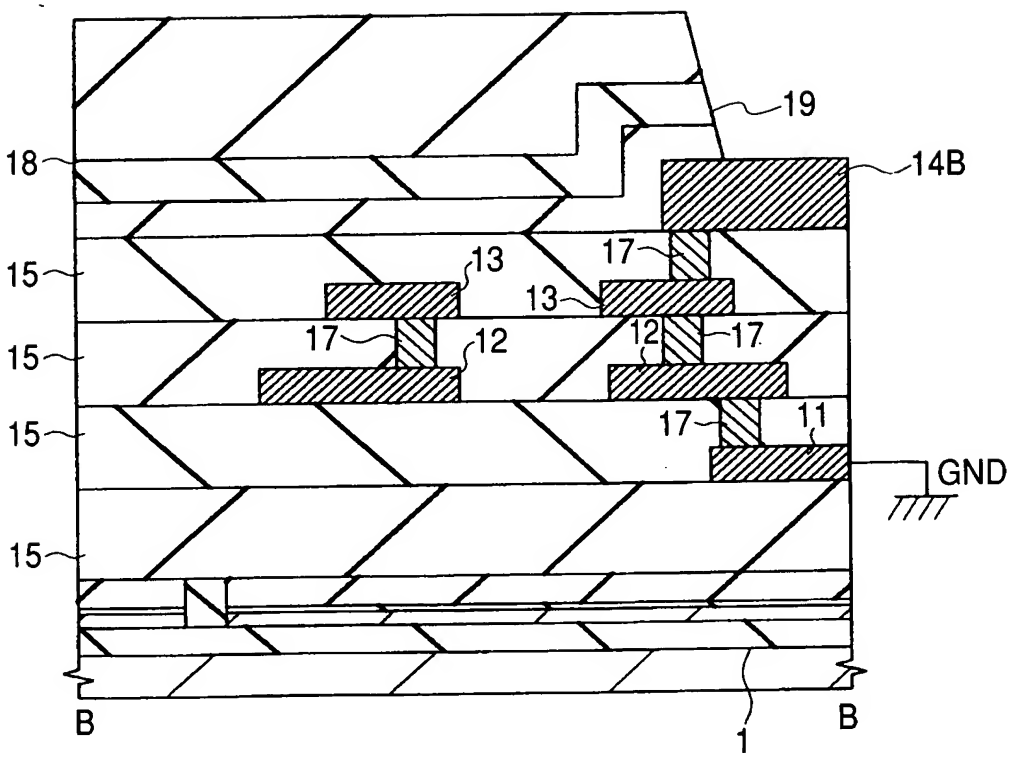


FIG. 12

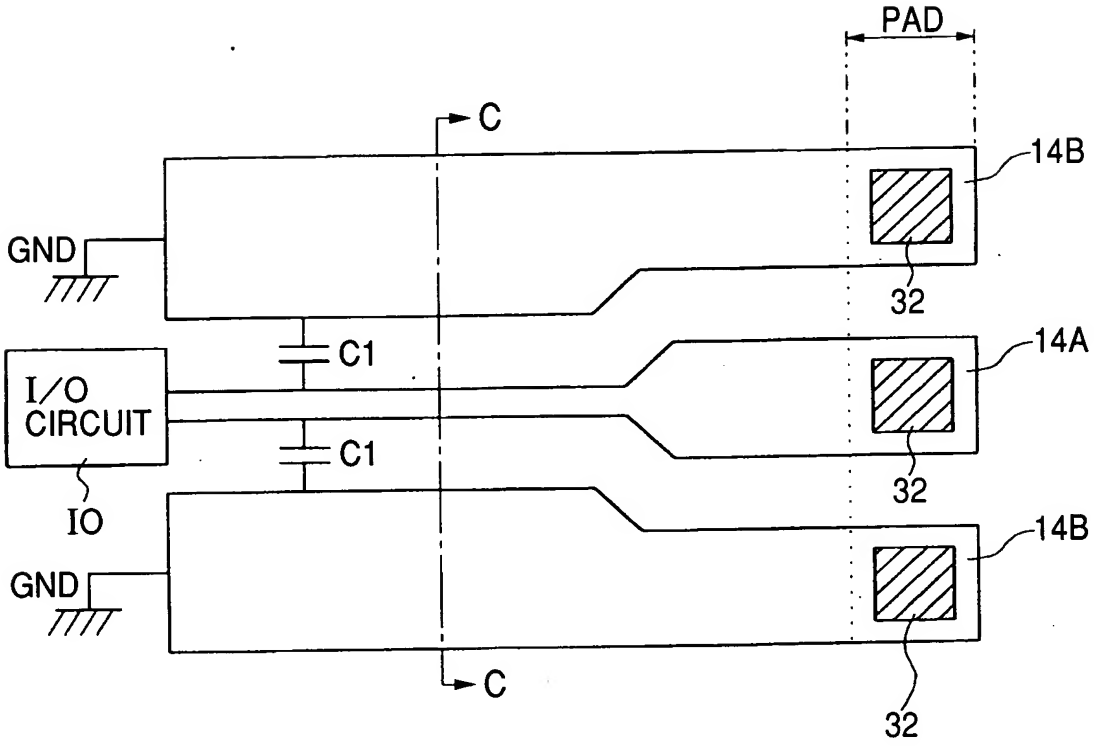

PAD
C
14B
GND
32
C1
14A
I/O
CIRCUIT
C1
32
IO
14B
GND
C
32

FIG. 13

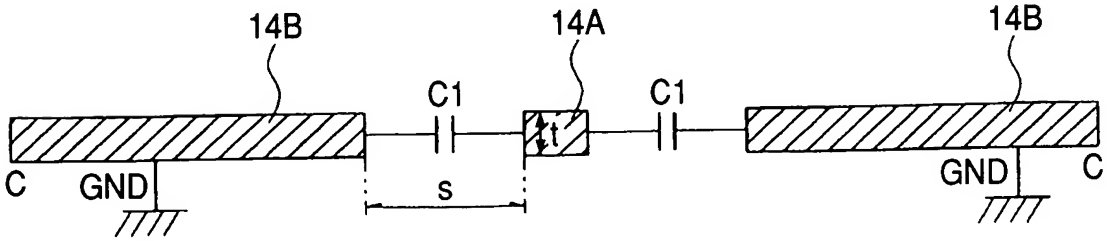

14B
14A
14B
C1
C1
C
GND
s
GND
C

FIG. 14

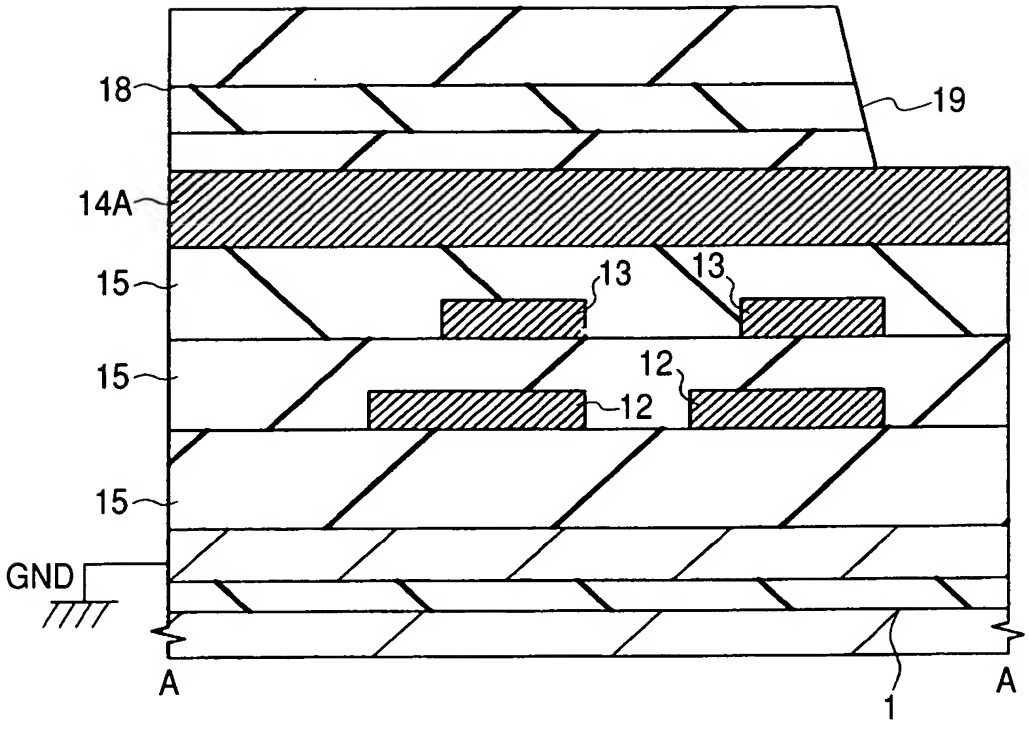


FIG. 15

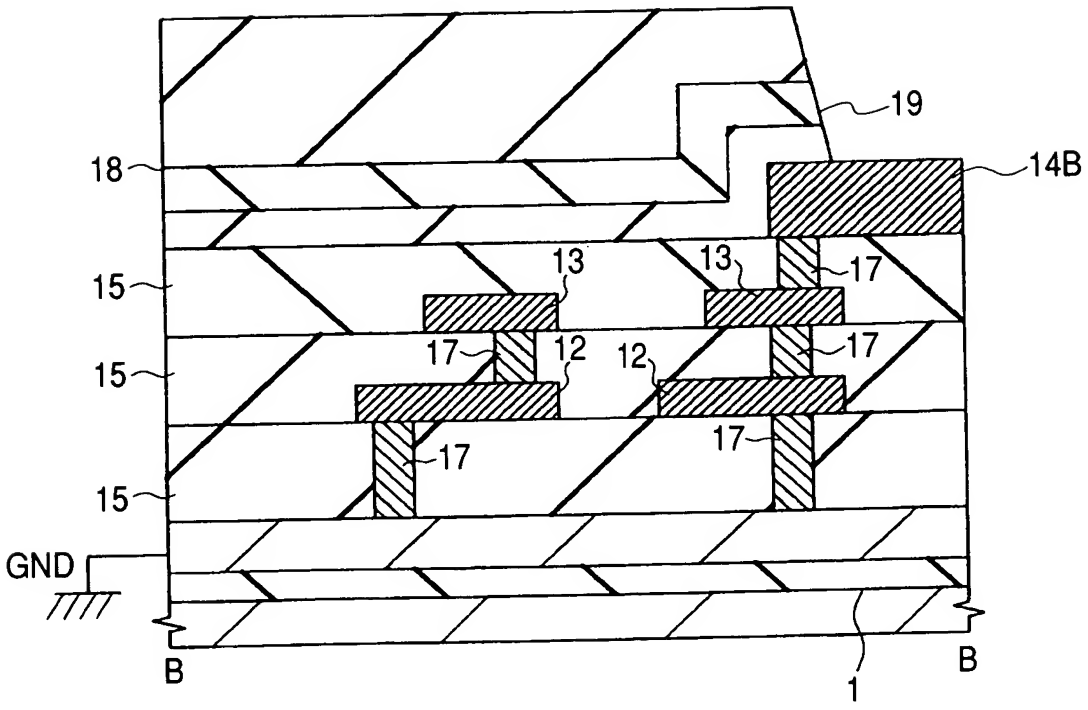


FIG. 16

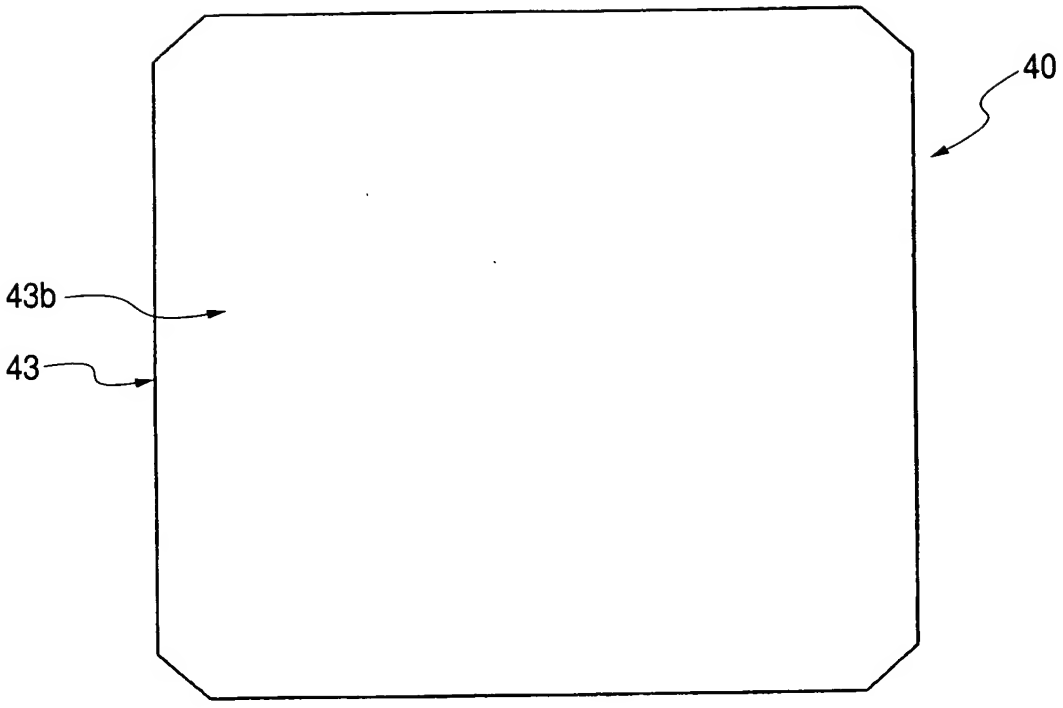


FIG. 17

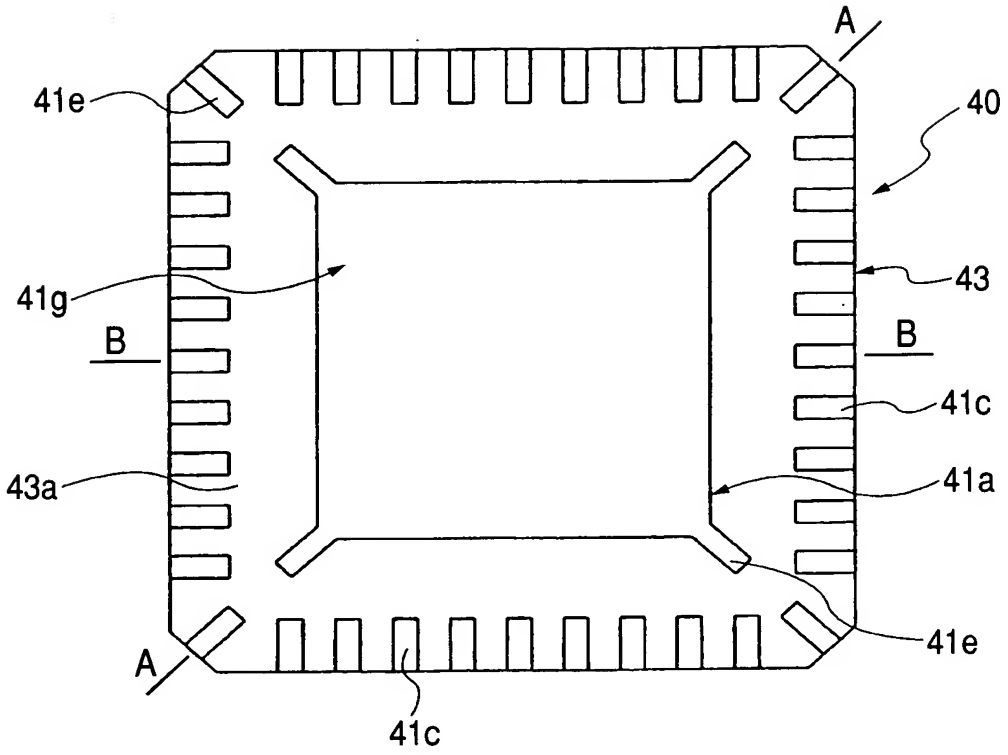

A
41e
40
41g
43
B
B
41c
43a
41a
41e
A
41c

FIG. 18

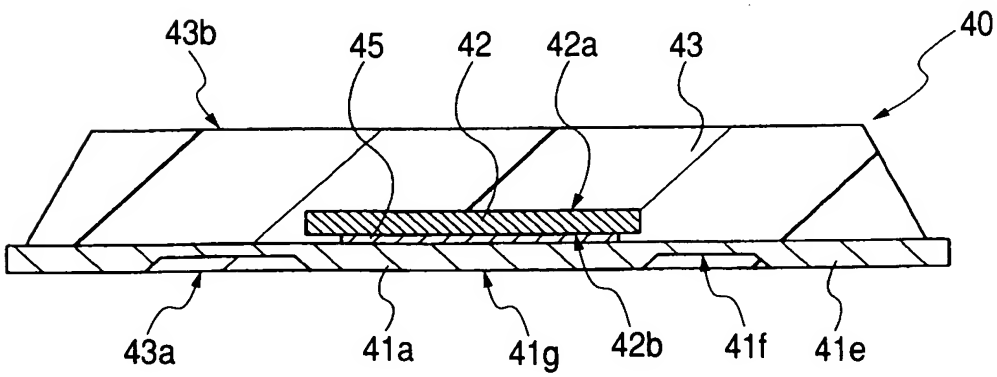
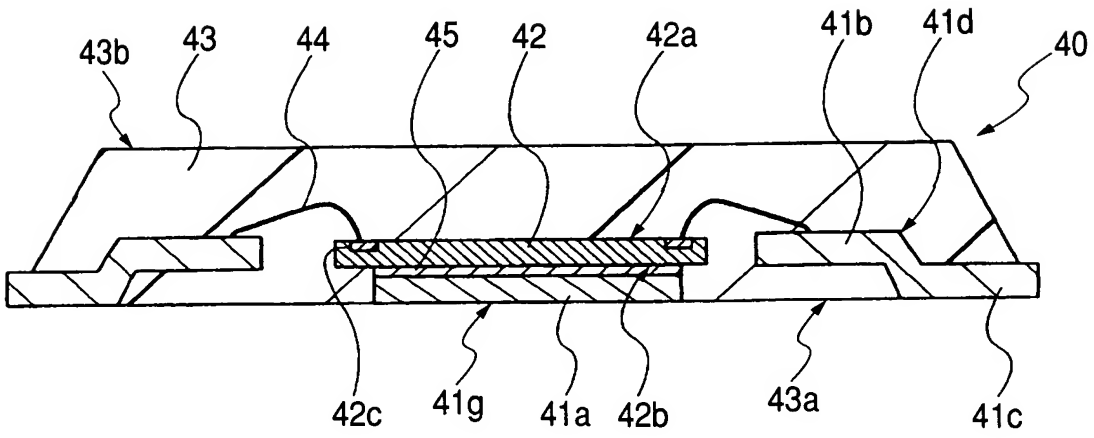

43b
45
42
42a
43
40
43a
41a
41g
42b
41f
41e

FIG. 19



40 : QFN (SEMICONDUCTOR DEVICE)
41a : DIE PAD
41b : INNER LEAD PORTION
41c : OUTER TERMINAL PORTION
41d : LEAD
42 : SEMICONDUCTOR CHIP
42a : MAIN SURFACE
42b : BACK SURFACE
42c : BONDING PAD (ELECTRODE)
43 : SEALING MEMBER
43a : MOUNTING SURFACE
43b : SURFACE (OPPOSITE SIDE)
44 : BONDING WIRE

FIG. 20

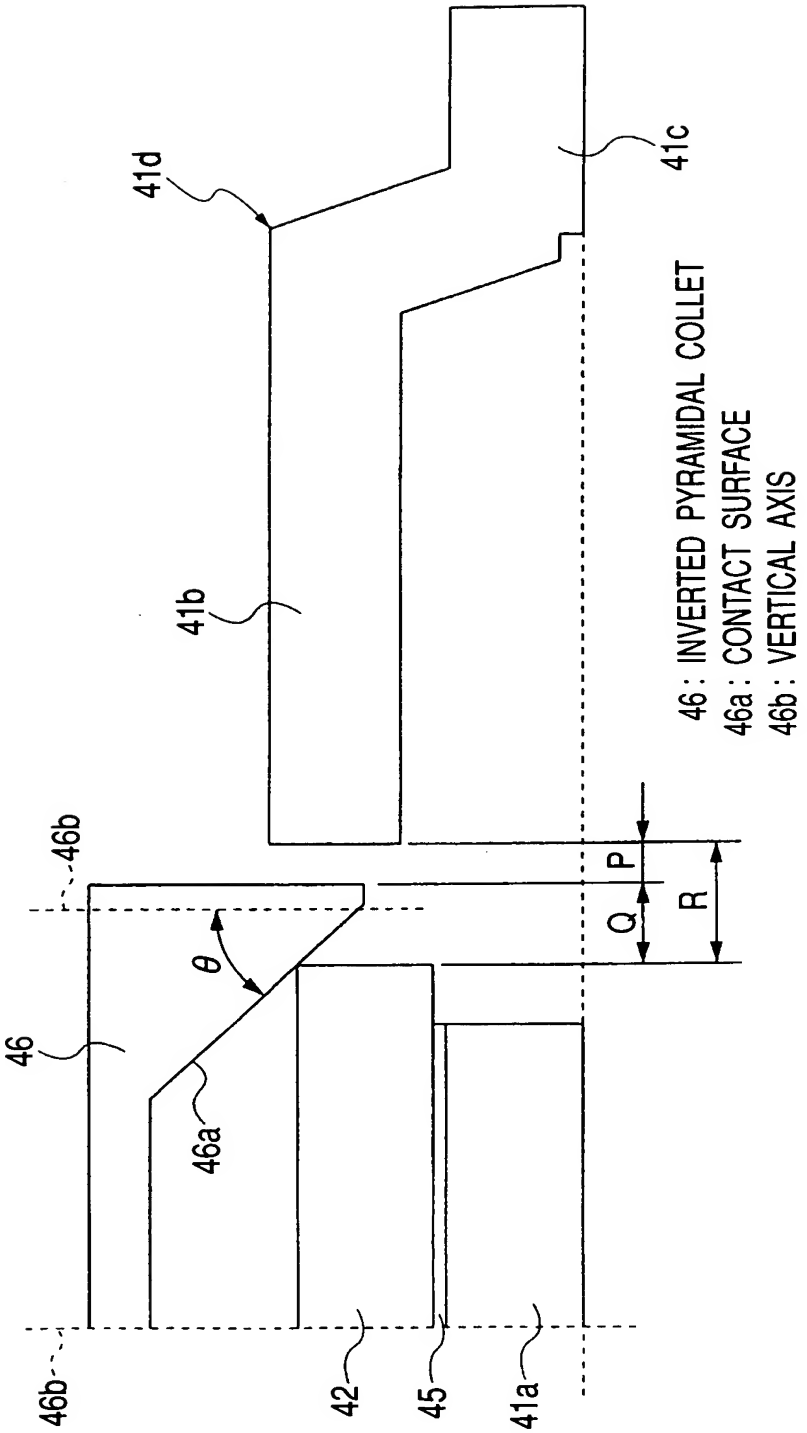

41d
41c
41b
46b
P
Q
R
θ
46
46a
46b
42
45
41a
46 : INVERTED PYRAMIDAL COLLET
46a : CONTACT SURFACE
46b : VERTICAL AXIS

FIG. 21

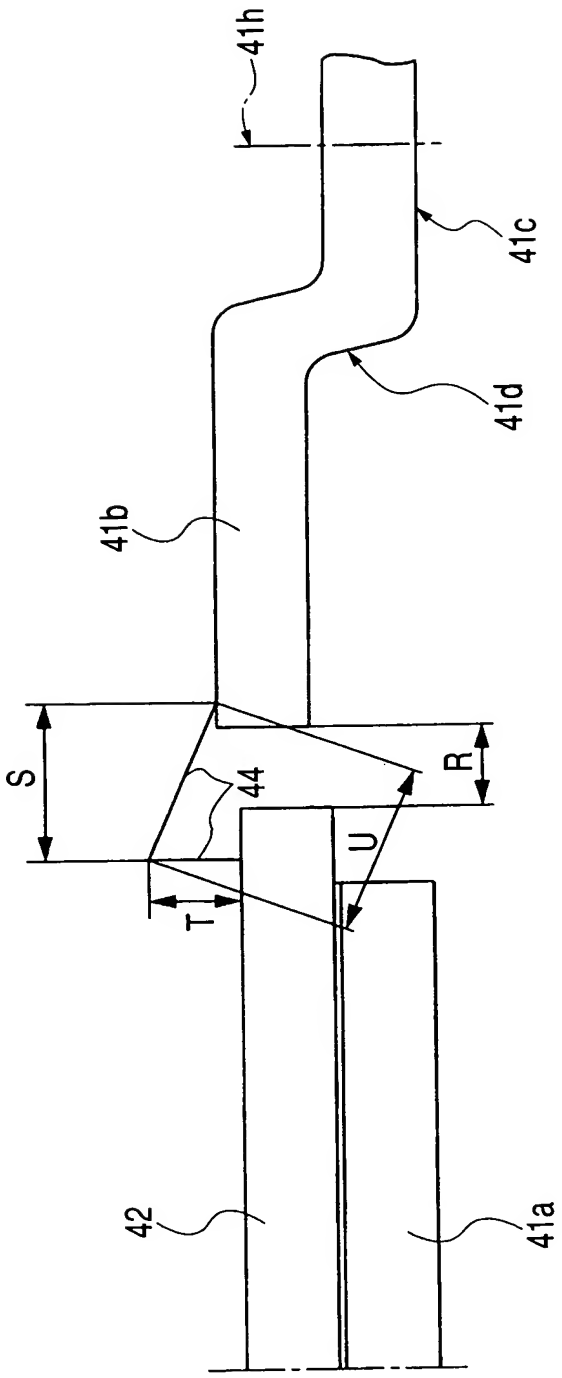


FIG. 22

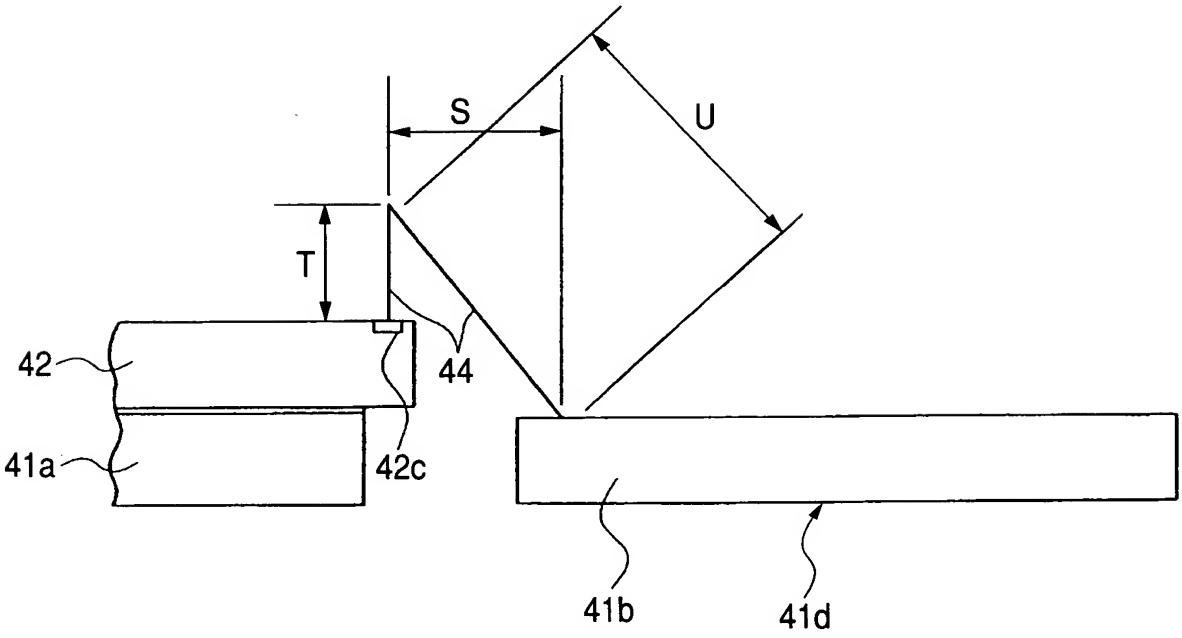


FIG. 23

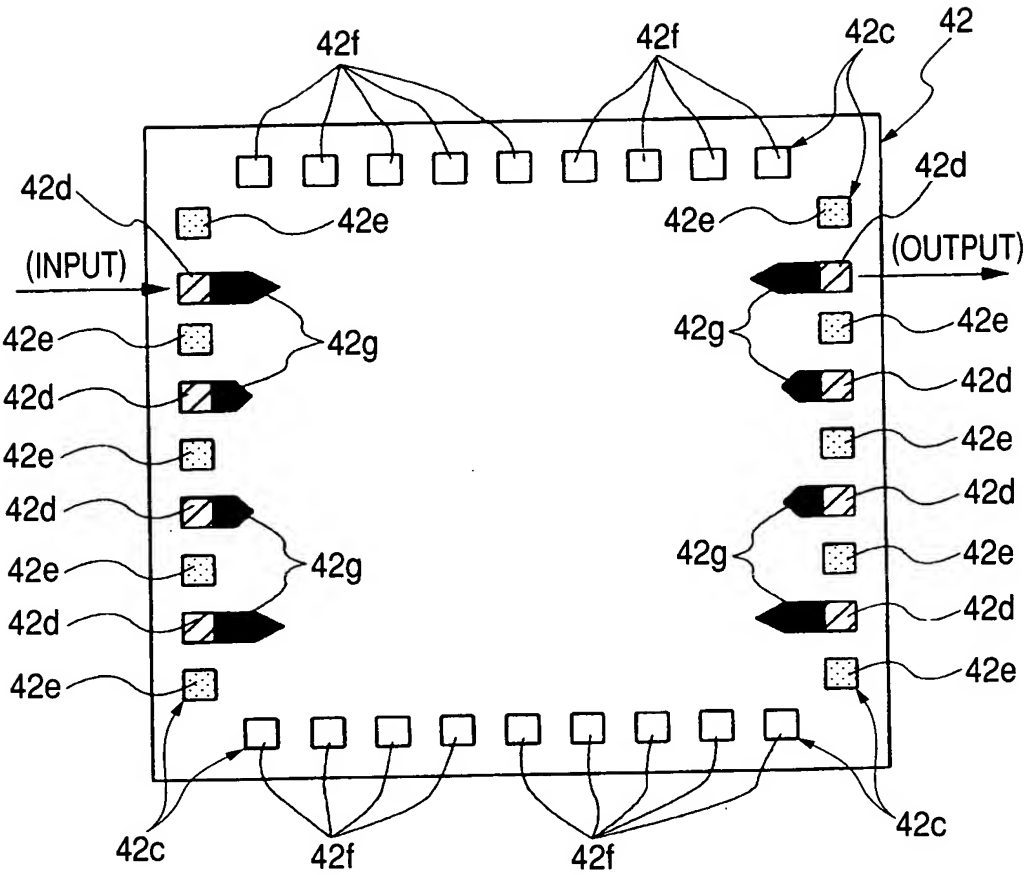
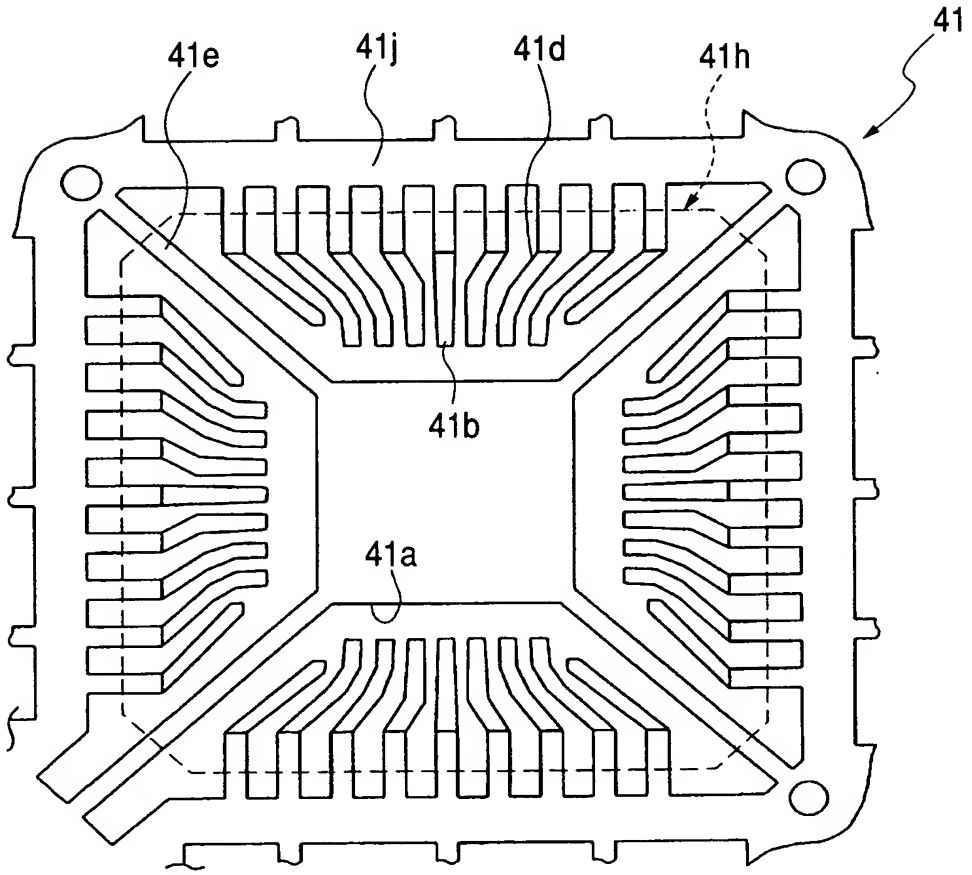

42f
42f
42c
42
42d
42e
42e
42d
(INPUT)
(OUTPUT)
42e
42g
42g
42e
42d
42e
42d
42e
42d
42g
42g
42e
42d
42e
42d
42e
42e
42c
42f
42f
42c

FIG. 24



41 : LEAD FRAME

FIG. 25

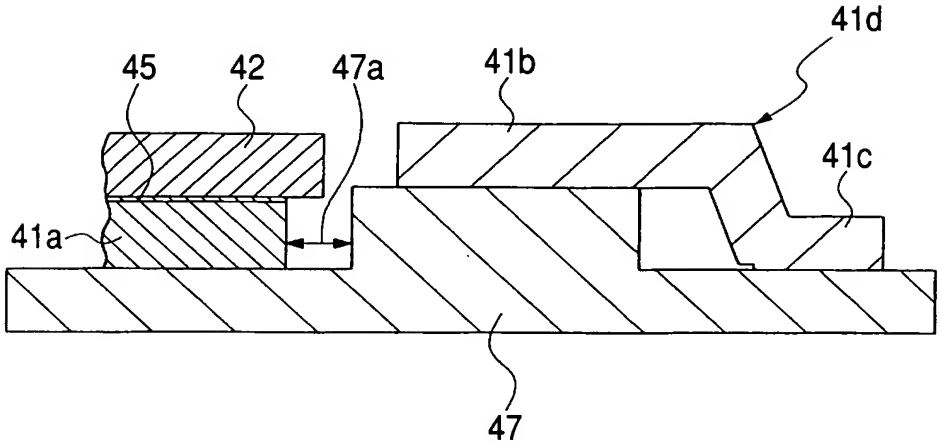


FIG. 26

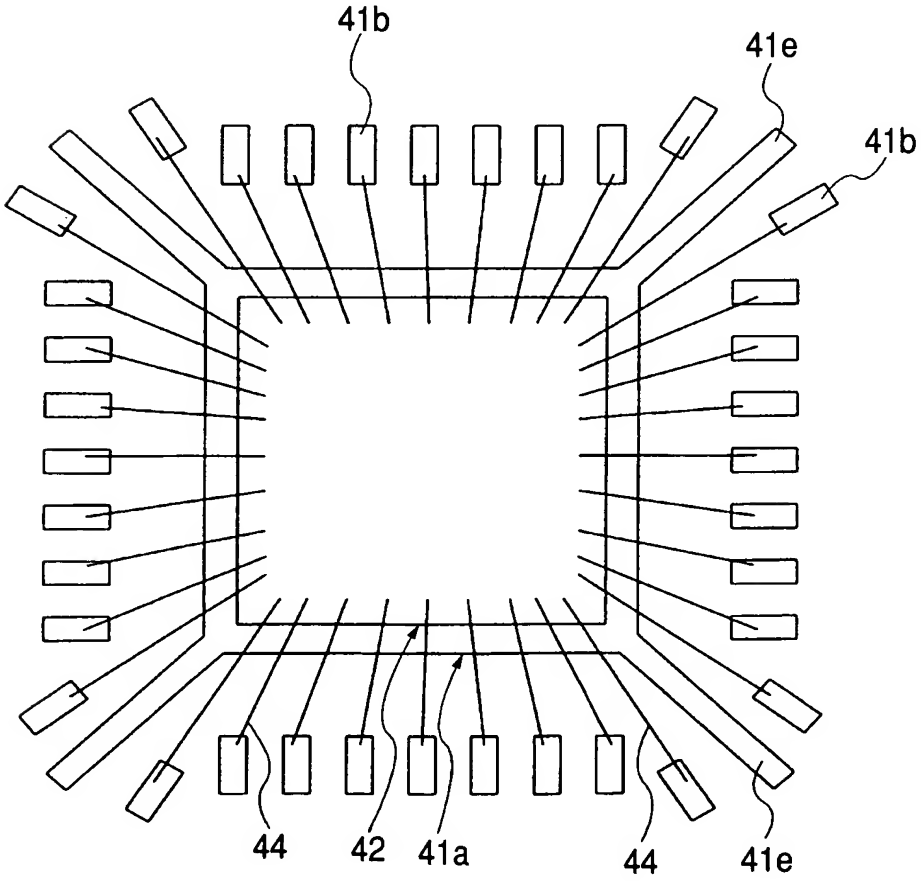


FIG. 27

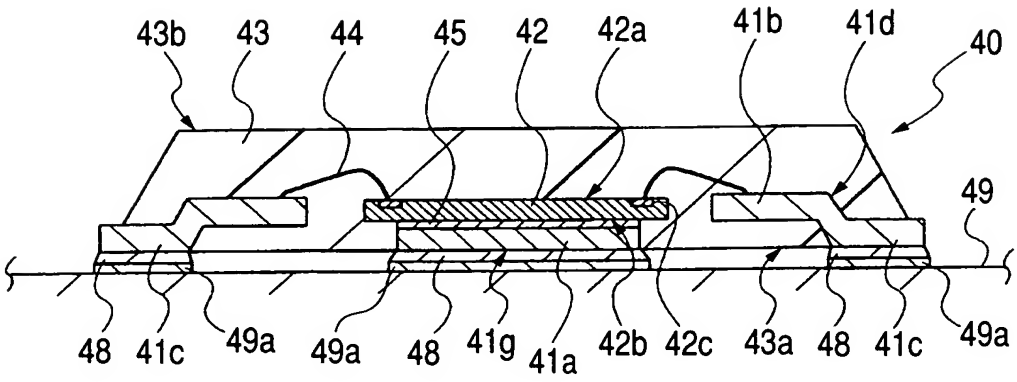
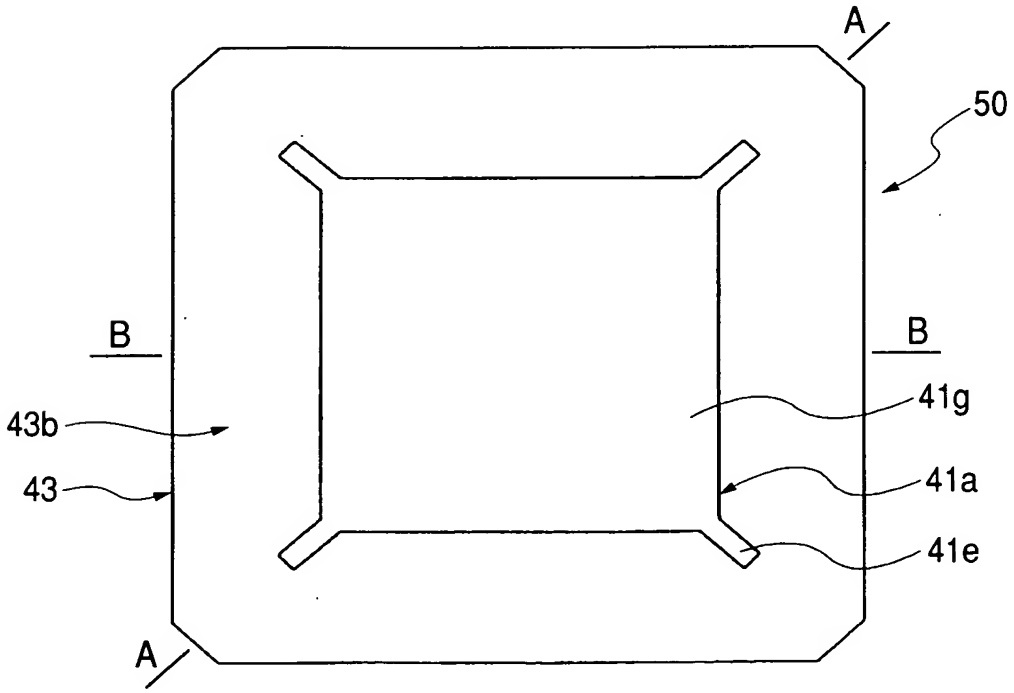


FIG. 28



50 : QFN (SEMICONDUCTOR DEVICE)

FIG. 29

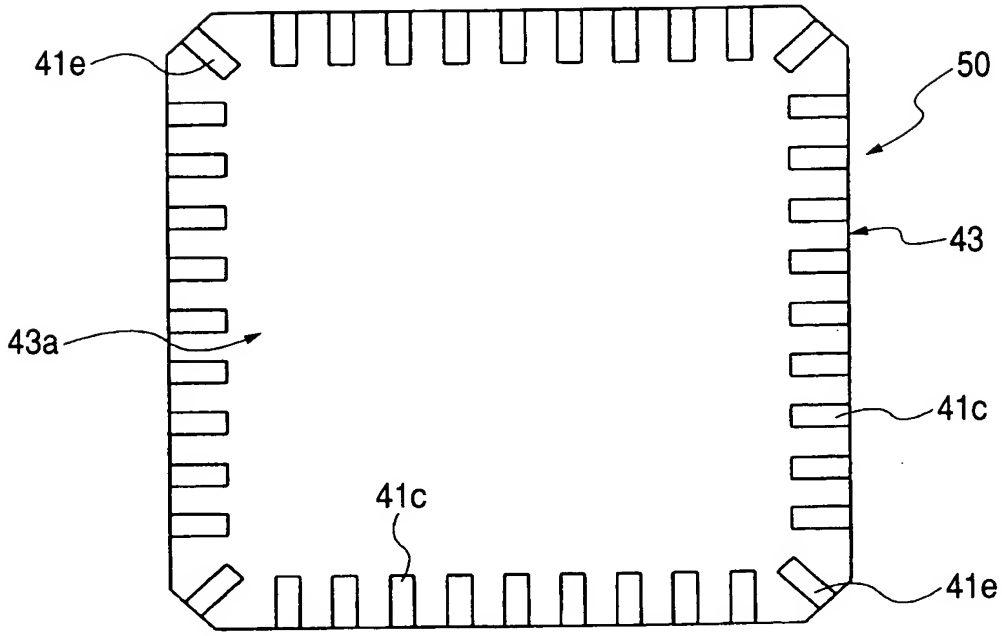


FIG. 30

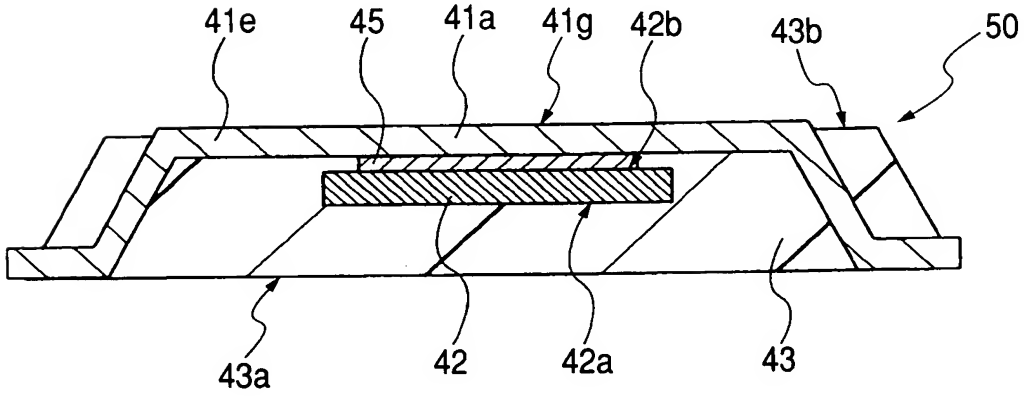


FIG. 31

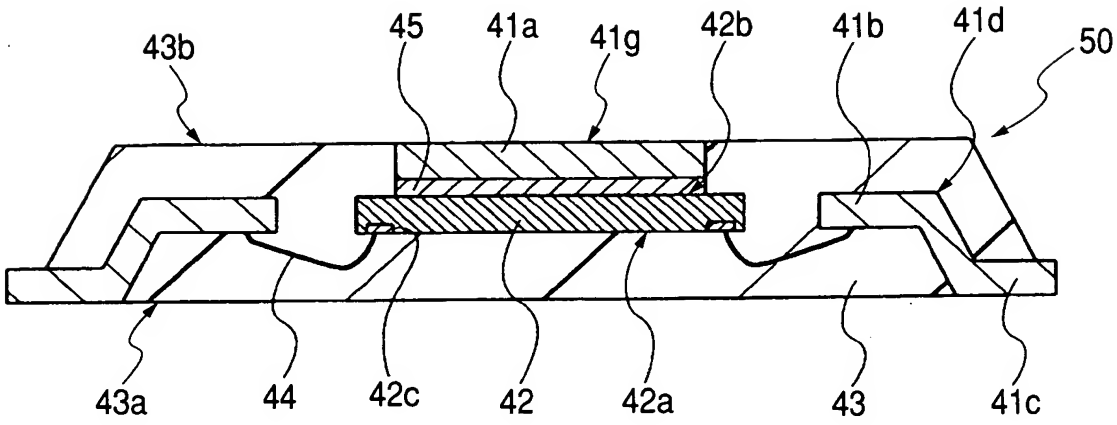
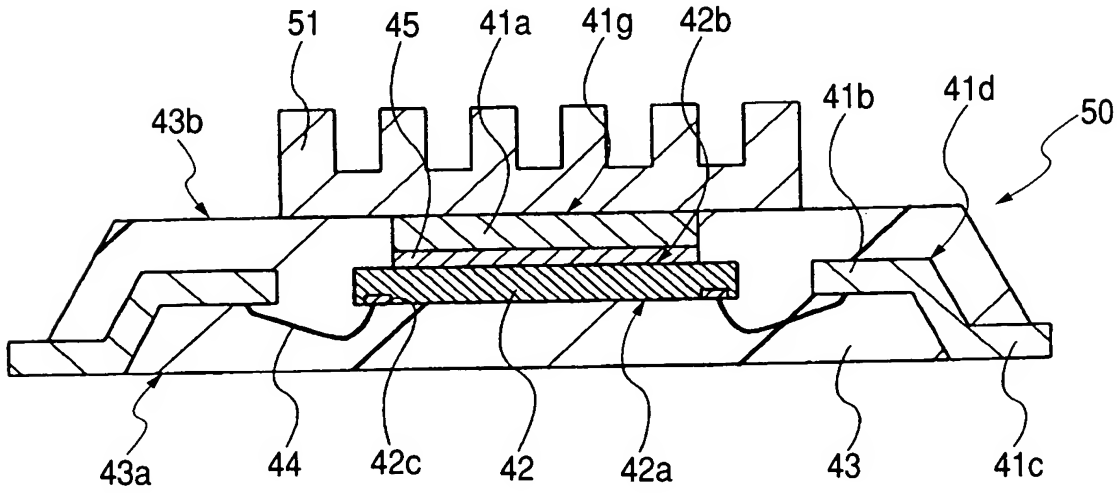
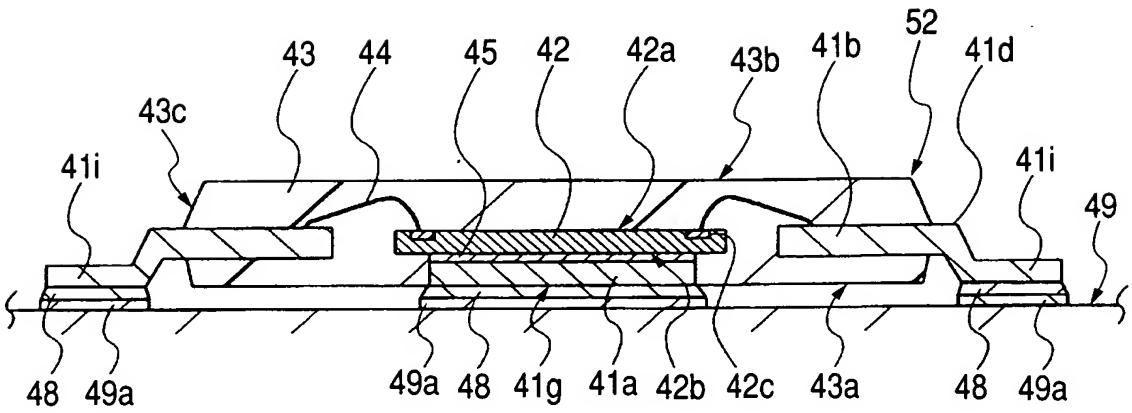


FIG. 32



51 : HEAT RADIATION FIN (HEAT SINK)

FIG. 33



41i : OUTER LEAD (OUTER TERMINAL PORTTION)
43c : SIDE FACE
52 : QFP (SEMICONDUCTOR DEVICE)